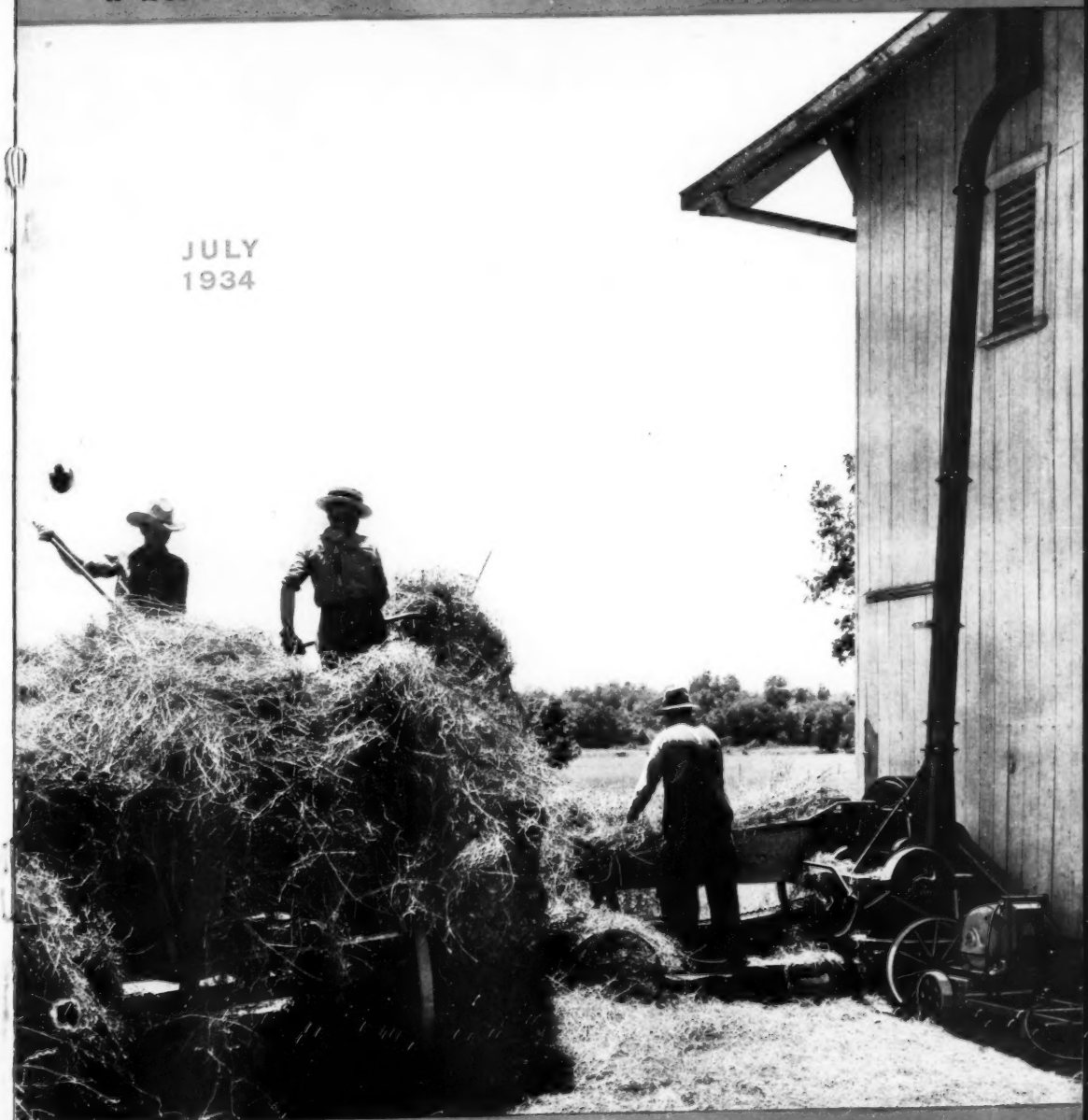
Electricity on the Farm

A MONTHLY MAGAZINE FOR THE UP-TO-DATE RURAL FAMILY

JULY
1934



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ELECTRIC *Hotpoint* RANGES
AND WATER HEATERS

July, 1934
Vol. 7 No. 7

Electricity on the Farm

IN THIS ISSUE

Filling the Silo the Modern Way

BY T. E. HIENTON

Electricity has revolutionized silo filling for those farmers who employ this modern method of accomplishing a farm task. Labor connected with silo filling has been reduced, not only to the satisfaction of the farmer, but the farm housewife as well. On page 4 the author presents data of interest on this topic.

Cleaner and Colder

BY ANDREW APPLEBY

There is no substitute for quality, and dairymen who depend on electric refrigeration to maintain the quality of their product know its real value. The author on page 7 presents a dairyman's version of the subject.

Cooking for Crowds

BY VERA B. MEACHAM

The farm housewife deserves some consideration in the preparation of meals, whether for the threshing crew or her immediate family, in that the most convenient method should be available for her. The electric range is the answer, and the author tells why this is so on page 10.

Regular Monthly Features

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EDITORIAL

THE simplest method of doing a task is ofttimes the best. Putting up silage is a noteworthy example.

Formerly it was customary to employ a crew of fifteen to twenty men for silo filling, and the speed with which the green silage was discharged into the silo made it necessary to assign men to work it down by tramping on it. A big crew meant heavy work and long hours for the woman folk, who had to do the cooking and all other arduous tasks incidental to it.

But times have changed. With the advent of "high line" electricity on the farm, two men now put up silage and do it better and more economically than was possible with a big crew.

An electric motor drives the cutter and it is only in operation while cutting, being stopped as each load is finished and started up again when the wagon arrives from the field with a new one. There's plenty of time for the silage to settle by itself and no tamping is therefore necessary.

Yes, silage, making has become a simple task with the aid of electricity, and the burdens of both the men and women on the farm have been materially lightened.

THE PUBLISHERS.

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Filling the silo on the farm of Gus Swanson, Attica, Indiana, with a five horsepower motor and fifteen inch silage cutter.

FILLING THE SILO

By T. E. HIENTON

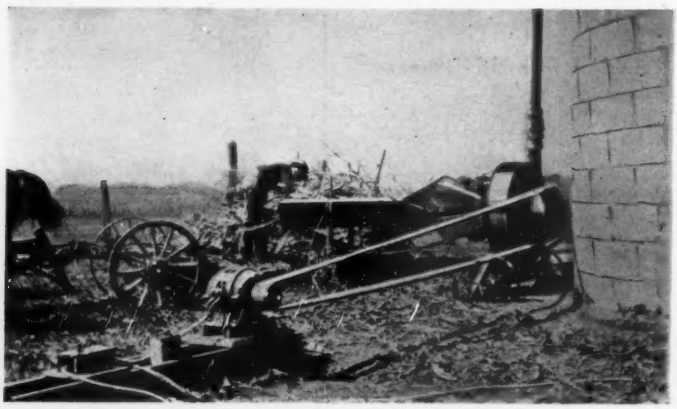
FILLING the silo, until a few years ago, was an annual task on the farm which brought only thoughts of heavy work to the minds of the farmer and his wife. In more recent years the improvements in silo filling equipment and the introduction of electric power have reduced the labor required to fill the silo and, by so doing, that to feed those engaged in the task.

Crews of 12 to 15 men are no longer used where an electric motor drives the cutter. Four to six men now comprise the crew used to cut the corn, transport it to the silo and operate the silage cutter. Another decrease, too, that has accompanied this decrease in number of men required is the decrease in noise made in filling the silo. The familiar blast of the whistle on the steam tractor no longer advises the neighbors that silo filling is under way. The hum of the blower fan can no longer be heard a mile away as it laboriously blew the silage into the silo.

Today, the quiet running cutter driven by an electric motor can scarcely be heard on the other side of the barn. Frequent accidents resulting from silage cutters "exploding" because they were driven too fast are not found in newspapers during the silo filling season. Power costs have been reduced as speeds of cutters have been reduced.

Experiments Responsible for Changes

Back of this change in equipment with its resultant saving in labor and power are the results of experiments conducted by agricultural engineers at the University of Wisconsin and at other state universities throughout the nation. Tests initiated by Prof. F. W. Duffee at the Wisconsin University have led to changes in design of many silage



Motor driven silo filling equipment on H. P. Miller and Sons farm, Sunbury, Ohio.

Close-up view of equipment for cutting and loading corn in preparation for silo on Miller farm, Sunbury, Ohio.

THE MODERN WAY

cutters, particularly the fan which elevates the silage. These changes in design have resulted in satisfactory operation at lower speeds with a corresponding reduction in the sizes of power units required.

At about the time these changes were being made in cutters, many experimental electric lines were being used as field laboratories in various states. The possibility of driving a silage cutter had been considered not feasible until the power requirements of cutters were reduced through changes in design. However, tests on these experimental lines and at various state universities including Wisconsin, Purdue, Minnesota and Cornell showed the practicability of using a 5-horsepower motor as the power unit.

Some farmers learning of this new equipment and the possibilities of its use were quick to employ it. Many preferred to let others test it out before they decided to use it. Demonstrations by county agricultural agents with the cooperation of power companies have aided in showing that a small electric motor weighing only a few hundred pounds can satisfactorily and economically operate a silage cutter.

Of greatest significance is the fact that farmers, who use electric power for operating their silage cutters, continue that practice. Two outstanding examples of this known to the writer are those of Arthur E. Shugart, Marion, Indiana, and H. P. Miller and Sons, Sunbury, Ohio. The former has used a 5-horsepower motor to drive a 13-inch cutter for the last six seasons while a 5 or 7.5-horsepower motor has been employed in the latter case for five years.

The methods and equipment used on these two farms will be of interest to those considering the use of electric power for running silage cutters. Mr. Shugart is a dairy farmer living about five miles from town. He, with the help of one hired man, cares for and milks a herd of 20 dairy cows. Together with a neighbor, a 13-inch silage cutter

General view of equipment and crew for cutting and loading corn for silo on the Miller farm at Sunbury.

Silo filling may even be a one-man job

was owned in partnership. Each year prior to 1928 Mr. Shugart had hired a tractor to drive the cutter. During the spring of 1928 he had installed a 5-horsepower motor to run a feed grinder and decided to try to use this to operate the cutter. Somewhat to his surprise he found it not only possible but practical to do so. In 1927 a crew of six was employed, but with the motor Mr. Shugart and his hand filled it alone. His cost for tractor power in 1927 was $21.00, while his cost for current in 1928 was about $3.00 to fill the 10 by 42-foot silo. This method is particularly practical on the Shugart farm for some refuse from a sweet corn canning factory is placed in the silo.

The Miller farm is likewise a dairy farm and is run on a very modern basis. Mr. Miller was the first county agent in Ohio and has two sons who are graduates of the Agricultural College of Ohio State University. The silo filling crew on the Miller farm includes only four men. One man drives the tractor which pulls the corn binder and wagons on which the corn is loaded. A second man loads the wagons. The third drives the team to take the loaded wagon to the silo and return the empty wagons. The fourth man unloads the corn at the silage cutter.

Pictures accompanying the article illustrate the efficient use of power on this farm. The tractor hauls the binder and wagon, the team moves the corn on the wagons from the field to the silo and the motor operates the cutter. Much of the labor of loading in the field is saved in loading the corn directly from the corn binder on the wagons. These are of a low type construction.

Current consumption on the Miller farm as on the Shugart farm averages one kilowatt-hour per ton. This figure is the same as that which has been determined in the experiments of different universities for average conditions. Certain factors in the operation of the cutters may increase this amount, such as sharpness of knives, condition of shear plate and speed of cutter.

The effect of sharpness of knives on power consumption was revealed to the author while tests were being made with three makes of silage cutters driven by a 5-horsepower motor during the fall of 1927. One cutter operating with three sharp knives used 0.908 kilowatt-hours per ton, but when these became dull used 1.20 per ton on a longer length of cut. Results of these tests are included in Circular 174 of the Purdue University Agricultural Experiment Station. It is recommended that knives be changed twice daily, at noon and again at the end of the day's work.

The shear plate gradually becomes worn or rounded off and should be replaced to insure proper cutting. Most of them are reversible and need only be turned over to secure a new cutting edge.

Cutter Speed Important

Speed of the cutter is an important factor in the amount of power required. It should be operated as slow as it will elevate corn into the silo at full load. Cutters of older design will not elevate at speeds as slow as the more recently manufactured ones and must be operated at speeds higher than those shown in the accompanying table. This is essential for satisfactory operation since older cutters were designed for higher speeds. An illustration came to the writer's attention several years ago where a farmer was attempting to operate a cutter with a motor at 400 revolutions per minute when the manufacturers' instructions stenciled on the machine advised 900 to 1100 r.p.m. Needless to say he was not successful with that cutter at that speed. The table of minimum recommended speeds for cutters with this article is one which was based on tests conducted and reported by Prof. F. W. Duffee. It appeared in this magazine several years ago, but is repeated because of its importance.

Minimum Silage Cutter Speeds

Table of cutter speeds for most efficient operation for different sized elevating fans and for silos of different heights.

Diameter of Cutter Fan	Height of Silo								
	25′	30′	35′	40′	45′	50′	55′	60′	75′
	Revolutions per Minute of Cutter Fan								
36 inch	415	440	480	510	540	575	600	625	695
38 "	390	415	450	480	510	545	570	595	660
40 "	370	395	430	460	485	515	540	565	625
42 "	355	380	410	435	465	490	515	535	595
44 "	340	360	390	415	440	470	490	510	570
46 "	325	345	375	400	425	450	470	490	545
48 "	310	330	360	380	405	430	450	470	520

Note: These speeds are based upon carefully conducted tests with a reasonable allowance to insure uninterrupted elevation. Good cutters will positively operate at these speeds.

Left: When the milk runs over the aerator slowly, it gets nearly as cold as the water.

Below: Bottling the milk before putting it in the cold storage room.

CLEANER AND COLDER

By ANDREW APPLEBY

THERE is no substitute for quality. None of the recent regulations, actual or proposed, for planned production, pegged prices, or controlled competition are so effective in stimulating demand as simply offering a better product. In the case of bottled milk there are always people anxious to get it if they think it is a little better than the average run. Even in these times, the leading retail dairymen in many communities are finding that *forward* is the best way out of a depression.

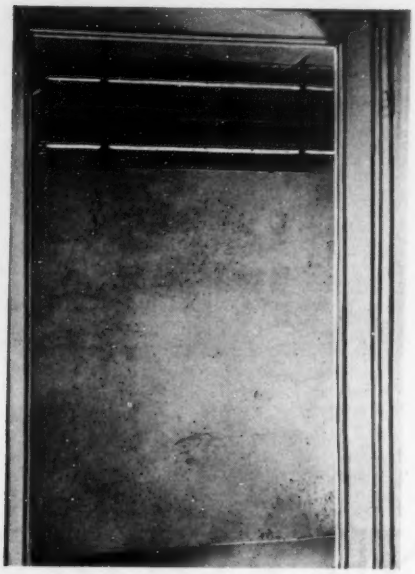
Not long ago I got first-hand proof of this fact from Charley Hanson, who is just such a dairyman, and from Dan Carter, his interested and loyal hired man. From an ordinary 120-acre farm and in competition with at least 13 other dairies, they sell bottled milk in Greenville. There are only about 5,000 people in Greenville—say 1,200 families or an average of less than 90 customers for each of the 14 dairies.

"We get our share of the business," smiled Mr. Hanson. "Since we changed from ice to electricity for chilling our milk nobody takes our customers away from us. There is always some one who can't resist undermining his competitor's business, and his own, too, by cutting prices. But we don't take part in price wars any more. We just offer better milk and find people willing to pay a fair price for it."

I knew that was putting the facts very mildly. For on that one feature of quality Mr. Hanson has built up his business until Dan now puts 300 quarts on Greenville doorsteps every morning.

"It makes me roll out early and hustle," Dan told me when Mr. Hanson had left us for a moment. "But Charley is a fine man to work for—

yes, and to pattern after. When he started this business, I guess about all the capital he had was in his head. But he sure knows how to use that.



For chilling a storage room, an expansion coil like this is more simple than a brine tank and more effective than ice.

Ever since he got current, he has never wasted his time nor the hired man's muscle turning cranks, or lugging water, or doing anything that a motor can do better and faster and cheaper. He always manages to find money for equipment that he knows will bring back more than it costs.

"That's how it was with the milk cooler. We used to put up our own ice—about 120 tons of it. I tell you that was a long, hard, cold job. But even that was only half the battle. All summer we had the daily chore of digging it out of the ice house—that is, all that didn't melt."

"Yes, the bill for our labor with ice would have been a big item if we had ever figured it up separately," agreed Mr. Hanson, returning just then. "But I really made the change on the basis of quality rather than cost. I just got more and more dissatisfied with natural ice.

Undesirable for Milk Cooling

"Nowadays with the land most all cleared up, barnyards and manured fields as well as little towns with all sorts of factories, and even hospitals drain into the streams. Nobody wants to drink that water, and I can't see that the ice is any cleaner than the water. I wouldn't think of washing my bottles in the pond where I used to cut my ice. And I know some of my customers, especially those with electric refrigerators, didn't find the idea of cooling milk with pond ice very appetizing.

"Let me show you my electric cooler," he added, proudly.

I followed him into his plain but neat white milk house. The coolest part of the building was partitioned off to make a separate room, and I immediately noticed the heavy latch and hinges of its door. When Mr. Hanson opened it, I stepped directly into winter, cold and fresh.

The floor of the room was concrete and the walls and ceiling were of smooth, hard finished plaster, making the interior as slicky and clean as a tea cup. The inside dimensions were about 5 ft. square by 7½ ft. high, and the walls seemed to be about 7 inches thick.

"What is the insulation?" I inquired.

"For the floor we laid down slabs of 4" corkboard right on the old concrete," Mr. Hanson

Proud of his shining truck and its quality load.

explained. "We put on a good coat of tar to make the cork waterproof, and spread 2" of rich concrete on top. The walls and ceiling have frames of 2 x 4 with all the spaces packed with mineral wool. On both sides of the frames we nailed building paper and good insulating wall board. As you see, we finished with plaster, inside and out. Heavy cork board might have been better, but it cost so much more that I decided against it."

The Cooling Radiator

"This radiator does the cooling," put in Dan, indicating an oblong bundle of copper tubes and vertical aluminum fins hung four or five inches from the ceiling. "It's connected to a ½ H. P. condenser unit that sits outdoors under a little shelter. That's all there is to it, but it supplies as much cold as 700 lbs. of ice a day."

"It works like this," went on the enthusiastic Dan. "I take the milk into town early in the morning before the milking is done. There is no delay or muss about cracked ice for the bottle cases. They are chilled down to about 38 degrees so I just load 'em into the truck and highball out of here. Ours is the first milk truck on the streets of Greenville. That's an advantage, too. If anybody wants milk or cream for an early breakfast, they flag the first milk wagon they see. I've sold a lot of milk to folks that hadn't been our customers before and some of them changed over and started taking it regular.

Thoroughly Chilled Before Delivery

"At home here they do the milking and run the milk over the water-cooled aerator right away. Then it sits here in the storage room nearly 24 hours. It's almost as cold as ice when I deliver it the following morning. You should see the cream on those bottles! The night's milk chills about 10 or 11 hours so it's nothing to be ashamed of, either."

I had never before realized how simple electric refrigeration for the retail dairyman can be. As is often the case, Mr. Hanson has plenty of cold water and a motor to pump it. By pumping direct from the well through the tubes of his aerator he can promptly cool his milk to about 60 degrees. Under those conditions the only refrigeration bottled milk needs is cold storage that will bring it below 40 degrees in 8 to 12 hours.

"We didn't need any brine tanks or pumps or a lot of complicated piping and mysterious doo hickeys," explained Mr. Hanson. "After the room was built and the plaster was dry, the service man set up the plant in half a day and away it went, just as simple as a pump. Since that day we've had no heaving and hauling to fill the ice bunker."

No After Clean-Up

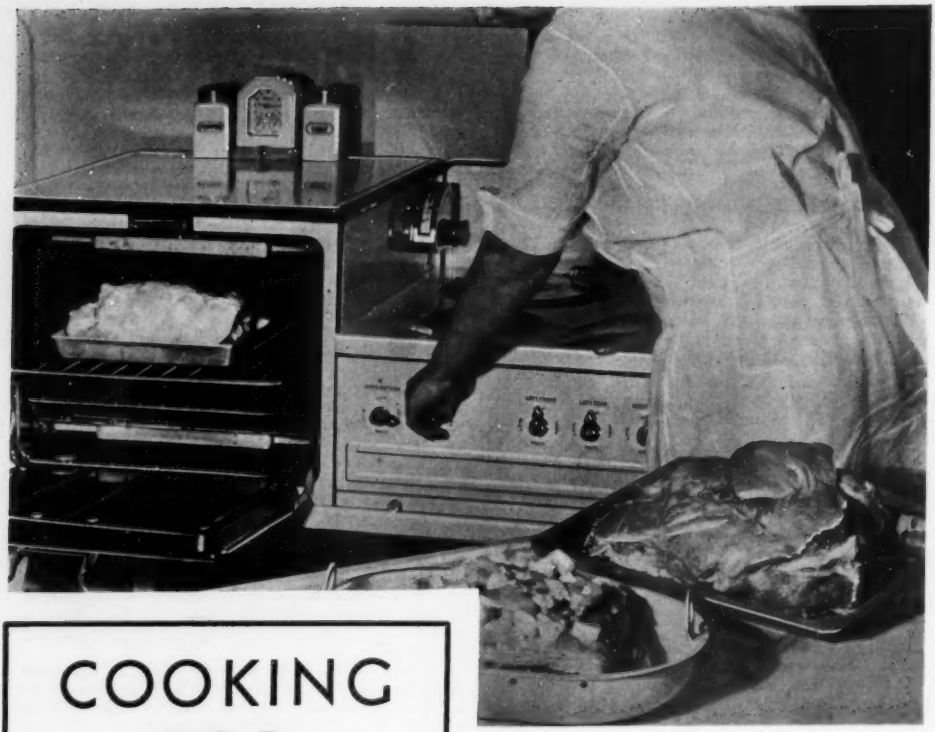
"No! and no more scrubbing out the scum and slime that were left when the ice melted," chimed in Dan.

"Including our own labor, the whole outfit cost a little less than $500," Mr. Hanson told me. "Nothing except our water system has ever made such a change in our business. In fact, we were able to get just as good water in the old-fashioned way, but we absolutely couldn't get the results with ice that are entirely automatic with this electric cooler.

"You see, it gets the milk colder than we ever got it with ice. That means there is less growth of bacteria—the milk keeps better. It also takes longer to get warm if the customer is slow about bringing it in. We have never had to replace a bottle of unsatisfactory milk since we started this cooler.

"When we used ice we were right in the same class as our competitors. We had to struggle to hold our customers and we could hardly sell the milk from more than 15 cows. But in the past two years, we have doubled our business. We now milk 25 to 30 cows and sometimes buy a little milk when we are short. Even in these times we have a demand for more than we can supply as yet. While our income has doubled, this cooler and our milking machine have kept our labor costs down. They help us produce the quality that pays."

An electric milk cooling cabinet installation on the farm of William Peterson, North Brook, Penna.



A turn of the button and the fire is made.

COOKING FOR CROWDS

By VERA B. MEACHAM

CROWD is an elastic word. "Two's a company; three's a crowd" for some folks. But thousands can be squeezed into it equally well. I do not mean either one. I mean real crowds, but crowds no bigger than the ten or twenty men of your threshing crew, the folks who fill silo with you, or the neighbors who change work with your men folks at corn shredding time.

Cooking for crowds like these makes threshing and silo filling big jobs for the women as well as the men. That is not news, of course, and I only mention it because I want to remind you that when you do it with electricity, you can cut down the job a good deal.

You can't change the amount of food you must prepare very well. Hungry men want "something filling" and "something tasty," and the baking, boiling and roasting must all be done. When I began to ask people what they gave threshers at their house, I found that if you live in New York, your menus do not differ markedly from those your cousin's wife serves in Iowa. And that threshers in Wisconsin sit down to much the same sort of meal as those in South Dakota.

"We always prepare plenty of potatoes, meat, two vegetables, one cooked, and one raw, bread and butter, pickle or relish, pie, cookies or fried cakes, and cheese, also coffee," writes one woman in the *Rural New Yorker* for October, 1932. "And home made brown bread, served warm is especially liked."

"A roast is the easiest way to serve meat for the men. I like the pork shoulder roasts best as they bake so rapidly. It may be partially cooked the day before and warmed in the oven before slicing onto the platter. I like to make cookies and pies the day before, too, if possible. The following have proved to be very satisfying menus for hungry men, and are easily varied to suit the season or the supply of vegetables or fruit on hand.

"Boiled potatoes, roast meat, corn on the cob, or succotash, fresh tomatoes, beet pickles, bread and butter, apple pie, cheese molasses cookies, coffee.

Boiled potatoes, meat loaf, hot baked beans, cabbage salad, chili sauce, bread and butter, pumpkin pie, cheese, sugar cookies or fried cakes, coffee."

If you cannot cut down on the food, at least, you can prepare it in the easiest way. If you have an electric range, that way is open to you. Why?

First of all, it is thoroughly reliable. When

Variety in make-up is the basis of the well planned meal.

Desserts should be dainty as well as tasty.

your professional reputation in your community rests on the flavor of your vegetables, and the succulence of your meats, on the height of your cakes or the flakiness of your pastry a dependable fuel and a dependable stove are most powerful allies. Dependability is so important that Mrs. A. C. Woodman of Janesville, Wisconsin, in writing me about her experience with an electric range puts it first of all.

"After eight years of experience with the electric way of cooking for crews of threshers, silo fillers, and corn shredders, I can frankly say it is the most dependable, economical, and efficient method for me to use. My stove with the three burners and the oven provides adequate space even when I have extra help. Now the threshing methods have changed so the number of men runs from twelve to fifteen. This is considerably less than when steam outfits were used. Then, the farmers had to keep the machine men over night, but now with cars they all go home."

The Secret of the Matter

Then, in another sentence, she puts her finger on the secret of the whole matter.

"With an electric range one knows just how long it takes to heat the oven. Just the turn of a switch and go about your work."

Another woman who cooks the same way adds, "When cooking for threshers and silo fillers, it is so nice to know that you have a steady even heat without the bother of replenishing the fire box with fuel."

There you have it. You build the fire without labor and keep it going without attention. It will neither get hotter, nor die down, but in oven or surface burner, it will keep a steady heat, just right for the cooking you are doing.

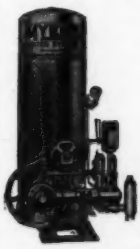
Besides saving your time and your strength that sort of fuel takes some of the uncertainties and hazards out of baking.

Next it is comfortable. If you get up with the sun on threshing day, or just a little before,—and start in baking a half dozen pies, a cake or two and a batch of bread, before you put the meat in to roast, you are going to be interested in the temperature of your kitchen.

"An electric range affords exceptional comfort in the kitchen since threshing and silo filling take place in extremely hot weather," says Mrs. Woodman. "The heat is confined to the various units and does not make the room like a bake oven to work in. It eliminates this heat ordeal, as I might call it."

Last year the workers in the experimental kitchen of a manufacturer of electric equipment decided to find out just how much an electric range did heat up the kitchen. We know from experience that it makes very little difference, but this was a test with thermometers, an accurate test that included observations of the temperature outdoors.

This is the meal they cooked on the range. Roast beef, browned potatoes, brown gravy, green



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beans, apple sauce, baking powder biscuit, berry pie, and tea.

When they began the cooking, the temperature inside the kitchen was 77 degrees, outside, 79. While the meal was cooking, the thermometer outside rose to 86 degrees. Inside the temperature travelled up to 87½ degrees. Just 1½ degrees more than the normal rise outside.

We cannot imagine a degree very well, but we know without thermometers the heat in our kitchens when we cook with wood.

Electric cooking is safe. No matter how big a hurry you are in, no matter how many unaccustomed hands may be helping you with the meal, no matter how long the current has been on, you have a steady, even heat that requires no guarding, no watching or tending. As Mrs. Woodman says,

"Electricity is safe. No worry about the stove exploiding, and many painful burns are eliminated. When I used to use the wood and coal range, I was burned many times just when I was cooking for a number of men and trying to hurry the meal along. It just hasn't any drawbacks for me when I am cooking for crews of men on the farm."

Prepare an Economical Dinner

Last of all, in the aims for this perfect dinner for threshers that Mr. Chartully sets forth comes "Something cheap." This is no new problem to us folks who get the meals. Mrs. Nellie Kedzie Jones, for long years in charge of Home Economics Extension work in Wisconsin, used to emphasize it in this tale of the ragged little boy who, leading a shrinking small sister by the hand, sidled into a restaurant and seated himself at one of the tables. When the waitress drew near, he raised trusting eyes to her face and demanded,

"Something that tastes good, and looks tony. and costs nineteen cents."

The cost of your dinner depends on your own skilful planning, on your garden, and your cellar shelves. An the cost of cooking it with electricity would be low.

What does it cost to cook ten pounds of potatoes, do you know? four pies? or a batch of bread?

I can tell you, if you are interested, for I have in my hands the report of a careful study of just that very thing.

Cooking ten pounds of potatoes on a 2,100 watt burner for 15 minutes on High, 15 minutes on Low, and 15 minutes with the current off took 656 watt hours ,less than one kilowatt hour, you

(*Continued on page* 18)

THRASHING TIME

"Along in August when the mulberries and plums and Duchess apples are ripe, the distant whistle of the power engine announces the approach of the dusty crew, and there is a scurrying about to make final arrangements and to insure a full quota of help. Meanwhile the hands and wits of the women folks are busy. Plenty of soap, water, shag bark towels, combs and brushes are placed on the back stoop, or somewhere else outside, the idea being thus to classify the worker's pre-prandial toilettes as an exclusively outdoors function. The dining room table is extended to its limits and enough chairs commandeered from upstairs and down.

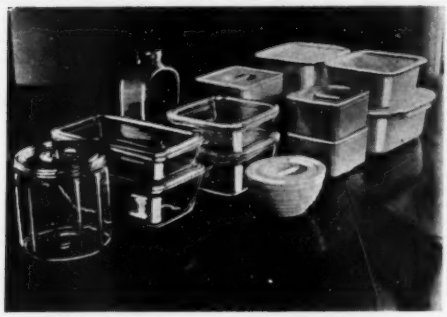
In preparing a meal, the cook aims at the following requirements, listed in the order of their importance. "Something filling", and "something tasty". Happy is the fair marksman who can hit both bull's eyes. Her fame is carried along the thrasher's circuit, literally "over the hills and far away"; and if she also manages to fire a third barrel into that supplementary target, "something cheap", her husband will certainly value her beyond any rubies ever mined."

J. A. Chartully,
Rural New Yorker,
January 23, 1932

ELECTRICAL HOUSEKEEPING

Conducted by
GAIL MEREDITH

RELATING TO REFRIGERATORS



A variety of shapes and sizes for a variety of uses.

THE savings you make with electric refrigeration can be protected and increased by skilful management. At first glance it may seem to you that a refrigerator needs little help with its job of perfect food preservation. And you are quite right.

You keep it clean, which goes rather without saying. You defrost it occasionally in accordance with the directions of the manufacturer—unless it defrosts itself, automatically. And further than that, you have only to store the food properly. But how to do that, I find as I view the refrigerators of my friends, is not yet common knowledge.

It begins, if you have a mind to learn the whys and wherefores of a really simple business, with getting the foods ready to store. Since your cost for cooling varies with the amounts you cool, it saves money to put in your refrigerator only the foods that need it for preservation or taste. There is no need to chill the tops of carrots or leaves on a bunch of celery. So cleaning the vegetables, cutting off the waste, and really getting them ready for use saves both space and the current for cooling.

Berries should be looked over and stored in an open dish, or a flat one if you can spare the space. Meat should come out of its paper wrapping and be set away on a plate about its own size so it will not take more than its share of space. Eggs ought to be wiped off before they are put in a wire basket or an open dish that will insure good ventilation.

Excepting meat, almost all foods that haven't grown their covers for themselves, should be kept in covered dishes. Foods that take up odors readily, or give them off, foods that lose moisture particularly need this protection. It prevents drying out, shrinkage, as well as controlling odors. Shut up, each in its own tight covered dish, the smells of a dozen foods can't intermingle or trespass one on the other. Each sticks strictly to its own affairs and that is a highly commendable condition in a refrigerator as any woman knows. Keeping foods covered saves current, too, for the more moisture the air picks up on its way around the refrigerator, the more the motor will have to work.

There is an almost unlimited choice of excellent refrigerator dishes on the market today. Sets of heat resistant glass with square dishes and oblong dishes, deep dishes and shallow dishes all with flat covers so one fits on top of the other to save shelf space, can be used for both baking and storing foods.

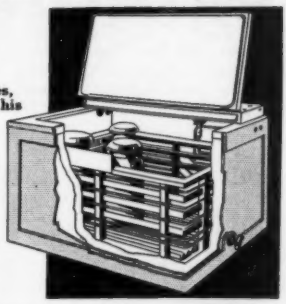
Sets of enamel dishes like the large oblong dish for salad greens and vegetables, and the square ones that fit on top can also be used both in the oven and the refrigerator. There are convenient aluminum dishes and pans of stainless metal. Porcelain is common, and whole sets of attractive rather heavy glass in many convenient shapes, well designed to take care of salads, vegetables, and the dabs of left overs that put us to our wits end, are appearing at a very low cost.

Tight Fitting Covers Essential

Whatever the shape, whatever the size, whatever the material, the covers must fit tight. Loose covers will not keep either the moisture or the odors inside. It is convenient to have them flat,

"SAVED ME $34 IN ONE MONTH"

says W. H. Hayes, South Carolina, of his ESCO



You too can **Make More Money** just like Mr. Hayes does. Get an Esco Electric Milk Cooler that pays for itself from the very start. Get Lower Bacteria Count. . . . **Make Your Milk More Saleable!** ESCO (Low Cost) COOLING Equipment Makes Money for You . . . because it quickly and economically cools milk to 50 degrees or below and keeps it cold until shipped. Thousands of successful dairymen are making bigger milk profits with their ESCO ELECTRIC MILK COOLER. . . . You can do it too!

ESCO

ESCO CABINET CO., West Chester, Pa.

Write Today Get FREE Booklet

"How to Get Bigger Milk Profits . . . The ESCO Way!"

ESCO CABINET CO. 7EOF34
West Chester, Pa.

I am making.....cans of milk..... bottles of milk a day. Please send information on ESCO Electric Milk Coolers, Utensil Sterilizers and Water Heaters—also FREE Booklet "HOW TO GET BIGGER MILK PROFITS—THE ESCO WAY."

Name.....

Address.....

P. O.....

State.....

Containers should be arranged so that the air circulates freely.

too, for the flat tops that let one dish stand on another save a good deal of space inside the box.

Bottles and pitchers for water, for fruit drinks and for iced tea are slab sided or have recessed handles that take up no room. They, too, have tight covers.

Then when the food is all washed up and tucked away in one of these convenient dishes, it must still be set in the right place.

To get adequate refrigeration, you have to let the air in the refrigerator circulate freely. The continuous flow of air from the chilling unit over the shelves, back to the chilling unit and over the shelves again, keeps the food cool. Putting too much in the refrigerator or stacking the dishes so close together that the air can't pass over them hinders this circulation. Load the shelves with an eye to letting the air pass freely through the box.

As the cold air from the chilling unit touches the food, it takes up some of its warmth as it passes and there are bound to be areas of slightly different temperatures inside the box.

The most delicate foods should be stored in the coldest place. These are milk, cream and meat broths. Meats and fish should come next with eggs and butter rather near the coldest place. Fruit and vegetables can be stored where the warm air ends its cycle and goes back to the chilling unit to be cooled all over again.

Since the design and construction of different refrigerators determine where this coldest part is for each model, you need to study the loading chart for your own refrigerator to find out where the food should be put.

There is still one more little step in planning where to put your food to cut the corners in the cost of running a refrigerator. If you will give a moment's thought to putting at the back of the food cabinet the foods you use least and putting in front the dishes that come out for every meal, you can cut down the length of time the door must be open. That doesn't mean much, to be sure, but it is another of those little savings that mark the thrifty manager.

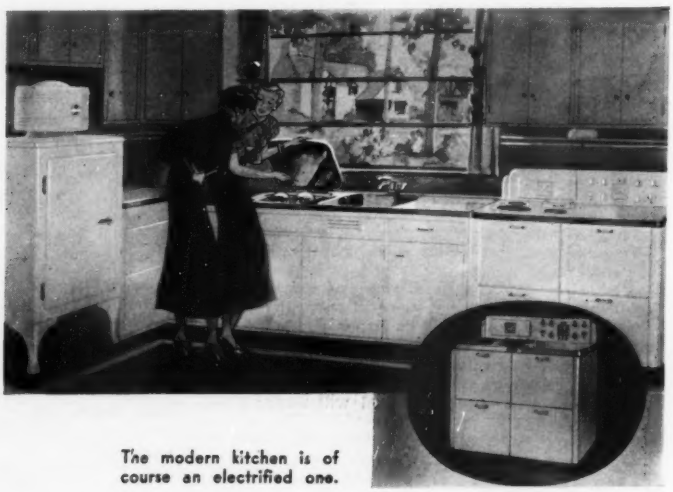
• • •

FLUMMERY

PERHAPS you already have this receipe tucked away among those you use for deserts the children can eat. And then,perhaps, since it is a very old fashioned dessert indeed, you have forgotten all about it. In any case, it has been revived by the Bureau of Home Economics of the United States Department of Agriculture as part of a group of specially selected dishes for children. In fact, they say that very little children can safely eat this wholesome and delicious sweet.

That does not mean that the rest of the family turn up their noses at it, either. Quite the contrary. It's popular all round the table. It even lends itself to Sunday dinners and company for

(*Continued on page* 18)



The modern kitchen is of course an electrified one.

ON THE AIR

Conducted by JEROME J. HENRY

From Mount Healthy

WALTER GERHARDT HUNT, CBS soloist with Glen Gray's Casa Loma orchestra, is generally known as "pee wee." But not exactly because he's a runt. "Pee wee" happens to be six feet, three inches tall, and weighs well over the 220 pound mark. He's a healthy specimen and never has known a sick day. Of course, his birth place may have something to do with it. He was born in Mount Healthy, Ohio.

Favorite comedian of millions of radio listeners is Fred Allen shown here in a rather serious pose. On the air he entertains with one laugh after another in the Hour of Smiles.

• • •

Favorite Young Actor Is Stage Veteran

JOHN BRIGGS, the dashing young Captain Randy Claymore of the "Roses and Drums" program, broadcast over a CBS network every Sunday afternoon, was born 25 years ago in Evanston, Illinois.

At the age of 17, when engaged as a pianist in a ten cent motion picture house, John's interest in the stage began. After graduating from high school he organized a group which staged amateur theatricals.

For several years he studied dramatics and finally landed important jobs in leading engagements. After serving for a brief time as a radio announcer, he got his first big "break" playing opposite Miriam Hopkins in "Through the Needle's Eye."

Twice previous to his appearance in the "Roses and Drums" series, John's path crossed with that of Reed Brown Jr., also a member of the radio cast. Both now appear as rivals for the hand of "Betty Graham," charming Confederate spy, impersonated by Elizabeth Love.

Griggs is a tall chap, weighs more than 160 pounds, and doesn't get angry when listeners who write spell his name "Groggs."

• • •

Antarctic News Comes Through CBS Stations

FROM the bottom of the world, where temperatures send a shiver down our backs even on a warm day in July, because those 70 below zero temperatures may have some sort of psychological effect, direct broadcasts are being presented over CBS stations.

Adventures of intrepid explorers with the Byrd Antarctic exposition are reported by short wave and re-broadcast for the enjoyment of listeners in the United States every Saturday evening.

Extremely low temperatures in these regions make it impossible for anything to travel except the voices carried by radio. While Admiral Byrd himself lives alone in a shack buried in the snow more than 100 miles south of Little America he keeps in touch with the exposition base through radio code signals. His messages are sent to this country by his associates.

The broadcast, coming from the most remote spot occupied by man, in the dead of winter, while

Up to their necks in the new

FRIGIDAIRE

Flowing Cold

MILK COOLER

Never a milk cooler like it! Put in one can and it goes down to its neck in the cold water. Put in another can—put in all the cans the cooler will hold—and still the water comes up to the same point on the cans. That's the exclusive, self-leveling feature of the Frigidaire FLOWING COLD Milk Cooler.

The water keeps flowing around the cans in a cold stream. In about an hour, all the milk in each can drops from body heat to below 50°. Then it stays cold *automatically* as long as it's in the tank.

Milk cools faster and keeps colder. Operating cost is said by Frigidaire users to be only half to a third the cost of cooling milk by old-fashioned methods of refrigeration. And the price of a Frigidaire FLOWING COLD Milk Cooler is so low that the savings soon pay for it. Get all the facts in the book we offer.

MAIL COUPON OR A POSTAL RIGHT AWAY

FRIGIDAIRE CORPORATION, Dept. T-29, Dayton, Ohio.
Send me the book, "How to Make More Money on Milk." I want to know all about the Frigidaire FLOWING COLD Milk Cooler.

Name.....

Address.....

P. O......*State*.....

we are enjoying summer sunshine will undoubtedly prove particularly enjoyable, possibly very refreshing on sultry summer evenings. If you haven't heard it yet, tune it in by all means and get the thrill of probing the Antarctic ice regions with your receiving set.

• • •

Amos 'n' Andy Favorites of Farm Listeners

AMOS 'N' ANDY, veteran entertainers of the air, are the favorites of farm radio listeners, according to an extensive survey conducted by ELECTRICITY ON THE FARM. It was more than five years ago that these stars, who hail from Illinois and Virginia, started their climb to the top rank in radio.

Their episodes remain intensely interesting because they choose everyday events as background for the sketches. Incidentally, Amos 'n' Andy lock themselves into a private offices every day where they write their own scripts together.

Strangely, in this day of vast studio audiences for leading radio programs, no one ever sees Amos 'n' Andy broadcast save the studio engineer and Bill Hay who introduces the boys.

Charles Correll (Andy) on the left and Freeman Gosden (Amos) are going over an Amos 'n Andy episode before they get down to the actual business of writing the script. Veterans of the air, Amos 'n Andy still rank at the top in the list of programs favored by farm families.

Farm listeners rank Eddie Cantor a close second in their list of favorites. Cantor, not now on the air because he's gone back to Hollywood for picture work, has been replaced for the summer by Schnozzle Durante. Lowell Thomas, whose numerous adventures and long experience behind the microphone add to his interesting presentations, comes up next in the line of favorites.

Indications are that listeners find the National Farm and Home Hour both informational and entertaining. It ranks as the most popular daytime program and fourth in the list of programs listed in the order of popularity among farm families.

Betty and Bob, Seth Parker, Death Valley Days, Religious Services, the WLS barn Dance, Will Rogers all come in for their share of favoritism among dwellers on our farms.

It is interesting to note that the interests of farm listeners vary little from those of city listeners. Perhaps this is an indication that radio, and modern equipment of all sorts, has brought to rural areas cultural advantages and an appreciation of music, arts, comedy, and labor-saving conveniences.

Radio stations who wish to appeal to farm listeners need no longer limit their entertainment to hill-billy tunes, which, incidentally, are just as popular in the large cities as they are in the country.

• • •

Radio Covered Stock Yards Fire

AN illustration of the speed with which radio can send news to listeners in both town and country were the descriptions of the Chicago stockyards fire about a month ago. Not long after the conflagration gained headway, station WGN went on the air direct from the scene of destruction to describe what was taking place.

Early in the evening—the fire started after four o'clock in the afternoon—the Columbia Broadcasting System was on hand for radio descriptions given from the rooftop of a nearby building.

Station WAAF, which was located in the Stock Yards and which sent much valued information to livestock farmers of the middle west, was completely destroyed in the fire.

Save for the coverage of radio, farm families probably would not have heard about the fire before Monday morning following the Saturday blaze.

INSECTOCUTORS
—IMPROVED—
Kill flies ELECTRICALLY at Door or Window

Indispensable **in Dairy and Cow Barns. Provides Sanitation and Comfort for Animals. Made in Screen Panels—to fit any opening. The Charge is instant death to Insects but harmless to humans.**

Just plug into electric socket. 20,000 in use. Cost little to operate.

Write for illustrated circular.

INSECTOCUTOR SALES CO.
219 North Jefferson Street CHICAGO

"What do you take for your insomnia?"
"A glass of wine at regular intervals."
"Does that make you sleep?"
"No, but it makes me satisfied to stay awake."—Chicago Phoenix.

New Arrival—Do you know if the charges here are reduced if one stays a week?
Hotel Porter—Couldn't tell you, sir. Nobody's ever stayed a week.

Questions and Answers

Conducted by H. J. GALLAGHER

Question: *At the present time I am Manager of Hillcrest Greenhouses and have for a long time wondered whether it would be practical or not to heat a greenhouse by electricity. The heat units could be installed just under the benches and the space just below would be ideal for mushroom culture. Please favor me with your ideas by return mail.*

CHAS. C. IFFT, Mgr.,
Hillcrest Greenhouses,
Franklin, Pa.

Answer: Heating greenhouses with electricity is an experiment that is being conducted in all sections of the country and under a great variety of conditions at the present time. Some reports are very favorable and other reports do not offer much encouragement for the colder climates.

Propagating benches and applications as you have mentioned for mushroom culture have been rather definitely proved successful.

A technical problem of this nature can usually be solved to best advantage by securing the assistance and cooperation of your local power company.

Question: *What would be the proper size pulleys to put on a line shaft to be driven with a 2 H. P. motor of 1725 R. P. M., pulley being 4 inches in diameter on the motor?*

I wish to run a 20-inch drill press with a 4-step cone. It has eight-inch tight and loose pulleys on it, and an emery and buffer, 10-inch stone, which has a pulley of 2 inches in diameter.

Both of these machines have tight and loose pulleys on them. I would like to belt them direct to the line shaft so I would not have to get a counter shaft, if possible.

Would it be all right to mount the motor as close as 4 feet from the line shaft?

Would greatly appreciate any information you may be able to supply.

H. M.

Answer: A 20-inch drill press with a four-step cone and an 8-inch shaft pulley usually has a range in diameters on the cones from 4 to 9 inches, and

CUT OPERATING COSTS!

DO you realize that you can apply electricity to cut costs as well as improve living conditions?

Here is a partial list of tried and proven equipment and the names of manufacturers who can give you valuable assistance.

It will pay you to read their advertising carefully and write for the free literature they offer.

	Page
Electric Ranges	
Edison G-E Appliance Co.	*Inside Front Cover*
Water Systems	
Myers & Bro. Co., F. E.	11
Heller Aller Co.	
Refrigerators	
Frigidaire Corp.	15
Water Heaters	
Edison G-E Appliance Co.	*Inside Front Cover*
Esco Cabinet Co.	13
Wiegand Co., Edwin L.	17
Dairy Utensil Sterilizers	
Esco Cabinet Co.	13
Milk Cooling Equipment	
Esco Cabinet Co.	13
Frigidaire Corp.	15
Stationary Spray Pumps	
Myers & Bro. Co., F. E.	11
Electric Poultry Supplies	
Trumbull Electric Mfg. Co.	
Clipping Machines	
Chicago Flexible Shaft Co.	
Range Replacement Units	
Edison G-E Appliance Co.	*Inside Front Cover*
Wiegand Co., Edwin L.	17
Hay Hoists	
Ireland Machine & Foundry Co., Inc.	
Electric Fencing Unit	
Gengler Mfg. Co., E. J.	18
Electric Fly Screens and Traps	
Insectocutor Sales Co.	16
Fruit Graders	
Butler, F. C.	18

For information about devices not included in the above list—use this handy coupon.

FREE INFORMATION REQUEST

Electricity on the Farm, 24 W. 40th St., New York

Without cost to me, please have manufacturers send complete information on the following Electrically Operated Equipment which I am thinking of buying.

. . . .

a recommended shaft speed of 250 R. P. M. This would give an operating speed ranging between 222 and 500 R. P. M.

A 4-inch pulley on the motor to a 14-inch pulley on the line shaft and then a 4½-inch pulley on the line shaft to the 8-inch pulley on the drill would give the required speed of 250 R. P. M. on the drill shaft.

A 2-inch pulley on the line shaft to the 2-inch pulley on the emery and buffer would give a satisfactory working speed of 1725 R. P. M.

The motor located a distance of 4 feet from the line shaft would not be too close; a closer mounting would be satisfactory if desired.

Question: *I have been working on a "B" battery eliminator for a 32-volt farm plant. What is the best way to make it? Can it be made successfully by the vibrator method? Due to the fact that it is a D. C. system, it is somewhat difficult to step up the voltage to 135 volts which is the required voltage for this test. Can you give me instructions for making a satisfactory hook-up"*

—S. T. H.

Answer: A radio set designed for 135 volts D. C. cannot be operated on 32 volts by any changes or additions that I know of.

The changing of D C. voltages is out of the question. The most satisfactory thing to do is to exchange the radio for a 32-volt set.

Flummery

(*Continued from page* 14)

supper if you bake some patty shells on the wrong side of your muffin rings, fill them with the raspberry flummery and then top it off with whipped cream or a fluffy meringue.

This is the receipe.

2 cups raspberry juice from canned or cooked fresh raspberries
½ cup sugar (if juice is unsweetened)
3 tbsp. cornstarch
¼ tsp. salt
1 or 2 tablespoons lemon juice

Heat the raspberry juice in a double boiler, add the sugar, cornstarch, and salt which have been thoroughly mixed, stir until the mixture thickens, cover and cook for at least twenty minutes. Remove from the stove, add the lemon juice, beat well, pour into a serving dish and chill. Serve with cream, whipped or plain.

"If you are using the juice from canned raspberries," the Bureau recommends, "you may have considerable pulp left over after draining the berries. Instead of pressing out the last drop of juice from the seeds, the whole drained berries may be used on vanilla ice cream, or made into a very good jam by cooking them few minutes with a little sugar."

CLASSIFIED ADVERTISING

SAVE MONEY with a GENGLER ELECTRIC FENCING UNIT. Only one strand of barbed wire needed—no expensive gates required. Fence line weeds practically eliminated. SOLD ON MONEY BACK GUARANTEE. Write today. E. J. Gengler Mfg. Co., Station F., Box H, Milwaukee, Wis.

THE BUTLER ELECTRIC FRUIT GRADER separates fruit and vegetables into three or five sizes. Soft rubber cups and interchangeable sizing rings prevent bruising. Occupies only square yard. Rotates fruit for inspection. Elevator. Quarter h.p. motor. Write for circular. Surprisingly low cost. F. C. BUTLER, 709 HANNA BLDG., CLEVELAND, OHIO.

A glance at the finished product.

Cooking for Crowds

(*Continued from page* 12)

see. If you pay 3 cents a kilowatt hour for electricity that is a little less than two cents for cooking the potatoes for dinner.

Four pies baked with 1 kilowatt hour, and so did 8 loaves of bread. Three cents for either job, then,—a postage stamp; that's all.

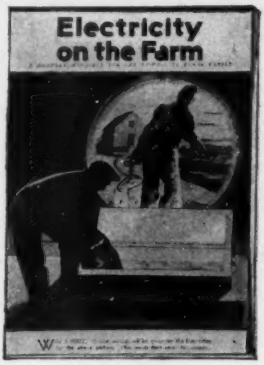
Men must work and men must eat, and we must cook for them. Being a cook is just one of the enticing side lines of matrimony,—and cooking for twoses or for crowds goes better on an electric range.

Ready for that last minute rush.

"I never worry about my husband being in an accident when he doesn't get home on time."

"I must get mine to take out more insurance, too."

TITLE CONTEST AWARDS



MAY COVER

RULES
July Contest

Ten cash prizes will be awarded for the 10 best titles for the picture on the front cover of this magazine.

The first prize will be $20 cash and nine second prizes of $2 in cash will be awarded.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Titles need not be longer than 10 words — the shorter the better — and they do not have to rhyme.

All members of the farm family to whom this magazine was sent may submit titles, but each contestant may submit only one title.

Question "A" must be answered correctly.

Entries must be sent to the Title Editor, ELECTRICITY ON THE FARM, 6 North Michigan Avenue, Chicago, Illinois, before August 1st.

Winning names and titles will be announced in the September issue.

Send your title on the coupon below or make out a similar form on a plain sheet of paper or government post card.

Winners for May

First Prize—$20

"He often remembers the 'ice house day'
As he cools the milk the electrical way."
MRS. H. E. BOUGHERS, R.F.D. 1, Fort Wayne, Ind.

Nine $2.00 Cash Prizes

"The ice lugging dairyman frowns the while—
The electric dairyman—he can smile!"
HELEN S. HART, New Brunswick, N. J.

"Another relic added to the past
For our dairyman's problem is solved at last."
MRS. FRANK MARRY, R.F.D. 1, Addison, Mich.

"Cooling milk with a block of ice
Can't compare with electricity in efficiency and price."
MRS. T. E. COVINGTON, R.F.D. 1, Fort Wayne, Ind.

"Why carry the ice to the milk box
When you can carry the milk to the ice box?"
W. K. THOMAS, R.F.D. 1, Muir, Ky.

"The milk cooling process is a pleasure today—
No worries or drudgery, the electrical way.
MRS. DONALD D. RICE, R.F.D. 1, Volant, Pa.

"Now that farmers must make things pay,
They cool their milk the electric way."
MRS. MARK COFFMAN, R.F.D. 1, North East, Md.

"The old ice house is full of hay
Since we cool our milk the modern way."
E. D. COMSTOCK, JR., R.F.D. 1, St. Charles, Ill.

"Have an electric milk cooler installed;
Then—long life and ease for all."
MRS. CHARLES B. HOLLIS, R.R. 1, Princeton, Ind.

"No more ice to pack, yet refrigeration fine
"With Jack Frost coming down the power line."
HERMAN HEUSINKVELD, R.F.D. 1, Lynden, Wash.

My title for the July Front Cover picture of ELECTRICITY ON THE FARM is.....

.....

.....

.....

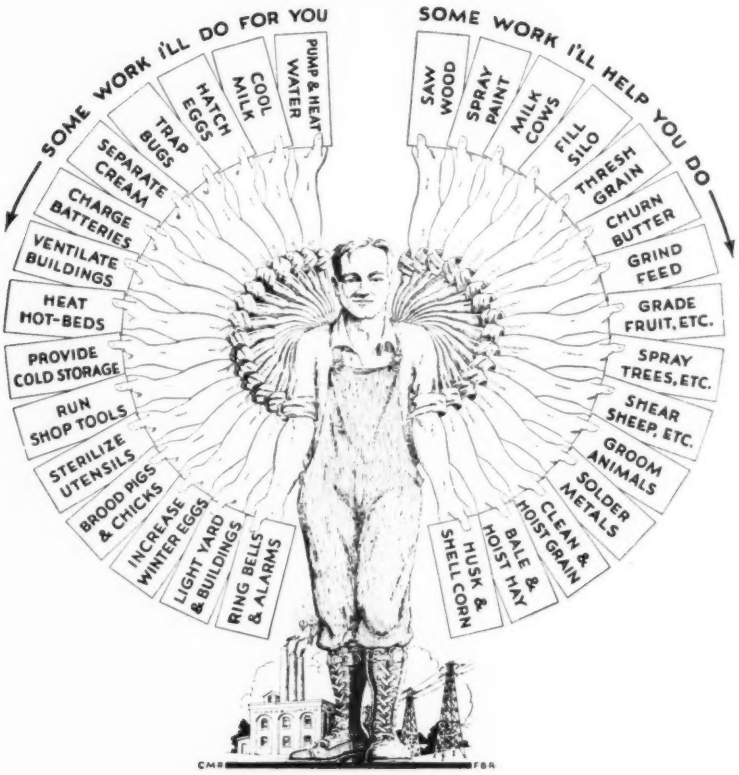
(a) How many cows are there on your farm?.....What means do you use for cooling the milk if any?.....

My name is.....R.F.D.....

Post Office.....County.....State..... 7-34

I AM ELECTRICITY

THE FARMER'S HANDY ANDY



HANDY ANDY SAYS-

"Give me my tools and I'll speed your chores
In barn, shop, dairy, and out of doors."

For further information, write

Your Own Electric Company

or

Electricity on the Farm

24 West 40th Street, New York

6 No. Michigan Ave., Chicago

ELECTRICITY ON THE FARM
24 West 40th Street
New York, N. Y.

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Sec. 56, P. L. & R.
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PAID
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Permit No. 552